

CIVIL AERONAUTICS BOARD

ACCIDENT INVESTIGATION REPORT

Adopted: March 7, 1952

Released: March 13, 1952

**CONTINENTAL CHARTERS, INC., NEAR LITTLE VALLEY, NEW YORK
DECEMBER 29, 1951****THE ACCIDENT**

At approximately 2225,¹ December 29, 1951, a C-46A, N 3944C, operated as Flight 44-2 by Continental Charters, Inc., a large irregular air carrier, crashed about 5 miles southwest of Little Valley, New York, while en route from Pittsburgh, Pennsylvania, to Buffalo, New York. Twenty-six of the 40 persons on board lost their lives and the remaining 14 sustained injuries varying from minor to serious. The aircraft was demolished but there was no fire.

HISTORY OF THE FLIGHT

Flight 44-2 originated at Miami, Florida, and was scheduled to depart there for Buffalo, New York, via Pittsburgh, Pennsylvania, at 1000, December 29, 1951. Because of a mechanical delay actual takeoff was not made until 1540. The crew consisted of Captain Victor A. Harris, Copilot Hans E. Rutzbeck, and Stewardesses Pearl Moon and Dolores Harvey. On board were 24 passengers for Pittsburgh, four passengers for Buffalo, and three extra crew members who were to fly the return trip to Miami. The flight arrived at Pittsburgh without incident at 2115 and 24 passengers deplaned.

At Pittsburgh 29 Miami-bound passengers, including an infant, boarded the aircraft. It was originally planned that these passengers would be picked up on the southbound flight Buffalo to Miami, however, due to the fact that the flight was 5 hours 40 minutes late arriving Pittsburgh, the passengers were explained northbound in order that, after servicing, the flight could proceed nonstop Buffalo to Miami. No fuel was added at Pittsburgh and Flight 44-2 departed there

for Buffalo at 2147 on a VFR flight plan. The takeoff weight was 40,263 pounds, which was 4,737 pounds less than the aircraft's certificated gross of 45,000 pounds, and the disposable load was properly distributed with respect to the center of gravity. At 2152 the flight called Pittsburgh Tower and reported its time off was 2147, this was the last radio contact. When the flight failed to arrive at Buffalo within a reasonable time after its ETA (2247), a search was initiated. It was not until 1433, December 31, however, that a report was confirmed to the Sheriff's office, Cattaraugus County, New York, that the aircraft wreckage had been located in a heavily wooded area near Little Valley, New York. A survivor, who had made his way from the wreckage to a farmhouse to obtain help, reported that the crash occurred at 2225 December 29, approximately 38 minutes after the flight departed Pittsburgh.

INVESTIGATION

Investigation at the scene indicated that the accident occurred about 100 feet below the crest of a hill, at an altitude of 2375 feet MSL, while the aircraft was in level flight and on a true heading of approximately 18°. Indications were that first contact was with small branches of a tree 60 feet above the ground. From this point on, as forward travel continued, disintegration of the aircraft progressed along a path 933 feet beyond the point of initial impact. All major components were accounted for along this path. Disintegration of the aircraft was complete with the exception of the aft part of the passenger compartment which came to rest at the most distant end of the line of travel.² It was in this section that

¹ All times referred to herein are Eastern Standard and based on the 24-hour clock.

² See appendix "A"--Wreckage Distribution Chart

all those who survived had been seated. Detailed examination of the wreckage disclosed no evidence of structural failure or mechanical malfunctioning of any part of the aircraft or its components. Both engines were developing appreciable power at impact, and both propellers were found in approximately the 30° setting, which is within the cruising range.

At Miami, prior to the proposed 1000 departure, the aircraft was loaded with 1200 gallons of fuel and 64 gallons of oil. At 1932 it was cleared for the takeoff and taxied to the take-off runway where a routine engine run-up indicated a powerplant malfunction. After returning to the ramp and unloading the passengers, the aircraft was taken to maintenance for correction of the mechanical difficulty. When this had been accomplished the aircraft was again loaded and the flight took off at 1540. It was estimated that the aforementioned taxiing and engine run-ups consumed approximately 100 gallons of fuel and that the flight departed Miami with 1100 gallons or 7 hours 20 minutes of fuel on board, as indicated on the weight and balance manifest and flight plan.

The VFR flight plan out of Pittsburgh indicated three hours (or 450 gallons) of fuel aboard. However, the weight and balance manifest out of Pittsburgh indicated fuel aboard in gallons as 400, after taxiing and engine run-up, and as 2 hours 20 minutes (or 350 gallons) in hours of cruising. This manifest further indicated IFR flight and other discrepancies, including designation of an airway that does not exist in that area and an incorrect reflection of the number of seats occupied. Continental Charters' operations manual stipulates that for flight planning purposes fuel consumption shall be calculated at 150 gallons per hour. At this rate, approximately 838 gallons of fuel would have been consumed during the flight between Miami and Pittsburgh (5 hours 35 minutes), leaving 262 gallons or 1 hour 45 minutes of fuel on board. No evidence was found that any fuel measurement was made at Pittsburgh,³ but it was

definitely established that no fuel was added.

Investigation disclosed that no member of the flight crew made any attempt to obtain weather briefing from Flight Advisory Weather Service for the route Pittsburgh to Buffalo. It was known by the weather briefer at this time that VFR conditions did not exist over the direct route and that weather was considerably worse over the higher ridges to the east. At 2124, however, when one member of the crew was filing a VFR flight plan, by telephone, the CAA Communicator on his own initiative gave the latest weather for Pittsburgh, Brookville, and Buffalo, and stated that it did not appear suitable for VFR flight. The 2128 weather reports, available to the flight crew before departure from Pittsburgh, gave the ceiling, visibility and wind at Pittsburgh and Brookville as 2,400 feet, 10 miles south 10 mph, and 1,900 feet, 5 miles, south-southwest 9 mph, respectively, with very light rain; and at Buffalo as 2,000 feet, 7 miles, south-southwest 21 mph. Flight 44-2 departed on a VFR flight plan, apparently with no more information on the latest weather developments than that given by the CAA Communicator.

At Bradford, Pennsylvania, and Jamestown, New York, the nearest weather reporting stations along the Pittsburgh-Buffalo route, ceilings had been reported as below 500 feet when official weather reporting was discontinued for the day, at approximately 1902. The observer at Bradford later stated that no appreciable weather change took place there prior to the time he left the airport at 2245.

The direct course from Pittsburgh to Buffalo is 18° true. In its Flight Information Manual which was effective on December 29 1951, the Civil Aeronautics Administration classifies this area as mountainous terrain, requiring a VFR night flight to maintain an altitude of not less than 2,000 feet above the highest point within a horizontal distance of 5 miles either side of the center of a direct course. In non-mountainous terrain, an altitude of not less than 1,000 feet above the highest point is required for VFR night flight. The airport at Jamestown, New York, which lies at the extreme western edge of this area, has an elevation of 1,719 feet; the accident occurred about 12 miles east of the direct course in terrain which is considerably higher than that at

³A review of Continental Charters' records disclosed that a notice had been issued to all pilots that they were "required to 'stick' the gas tanks before all take-offs to ascertain the correct amount of gas aboard."

Jamestown.⁴ Continental Charters' operations over this route were being conducted on the premise that the terrain is not considered mountainous, further, the company had been so advised by the CAA Aviation Safety District Office, Miami, and the agent assigned to supervise Continental Charters' operations so testified at the public hearing on this accident.

Reports of ground observers and testimony of surviving passengers indicated that Flight 44-2 was conducted at a low altitude all the way from Pittsburgh to the accident scene. The first reliable indication of the flight's position after departing Pittsburgh was "very low" over Sarver, Pennsylvania, approximately 28 miles north-northeast of the Pittsburgh-Allegheny Airport and three miles east of the true course, Pittsburgh to Buffalo. The next position, Cowansville, Pennsylvania, approximately 40 miles north-northeast of Pittsburgh and eight miles east of the true course, was reported by ground observers who heard but did not see a low-flying aircraft. Following this a low-flying aircraft was reported to have been heard at Ringersburg, Pennsylvania, approximately 52 miles north-northeast of Pittsburgh and eight miles east of the true course. At Sheffield, Pennsylvania, approximately 104 miles north-northeast of Pittsburgh and 15 miles east of the true course, it was reported that an aircraft had been seen entering a fog bank. The next point along the intended course to Buffalo which provided reliable information as to the possible passage of Flight 44-2 was at Onoville, New York, about 13 miles south-southwest of the crash site and 11 miles east of the true course. Witnesses here, who stated that an aircraft flew over very low, described the weather as "foggy." Witnesses at Steamburg, New York, approximately seven miles south-southeast of where the accident occurred and on a direct course from Onoville to the crash site, stated that the aircraft flew over there exceptionally low, and three reported they could distinguish the lighted passenger compartment windows. They stated further that the weather was very foggy and estimated visibility as less than one-half mile. Steamburg is located in a valley 1,410 feet above

sea level and the terrain rises sharply to the northeast.

Continental Charters' flight operations are conducted under a company operations manual acceptable to the Civil Aeronautics Administration. This manual specifies, among other things that the pilot in command is

1. Responsible for familiarizing himself with all available weather data prior to the departure
2. Responsible for determining the amount of fuel and oil required, and for procuring such fuel and oil when away from base
3. Responsible for operating and dispatching procedures away from base.
4. Responsible for conducting his flights in accordance with all requirements of the Civil Air Regulations.

Civil Air Regulations presently permit VFR night operations under weather conditions suitable for such flight.⁵ On January 3, 1952, five days after the accident, Continental Charters adopted a company policy that all of their night operations would be conducted in accordance with instrument flight rules. On this same date the company also issued instructions to flight crews prohibiting use of the automatic pilot at an altitude of less than 3,000 feet above the local terrain, and on January 21, 1952, issued further instructions prohibiting use of the automatic pilot during instrument weather, and while climbing and descending.

ANALYSIS

The uneventful flight of 5 hours 35 minutes from Miami to Pittsburgh consumed an estimated 838 gallons of the 1,100 gallons of fuel aboard. Since there is no evidence that a fuel measurement was made prior to departing Pittsburgh, as required by the company's operations manual, and it was definitely established that no fuel was added,

⁴ See Appendix B—Chart showing probable flight path

⁵ Largely as a result of information gained from this investigation, the Board has caused to be issued Civil Air Regulations Draft Release No 52-8, dated March 10, 1952, proposing, among other things, an amendment to Section 42 58 of the Civil Air Regulations so as to require that night VFR passenger operations in large aircraft be conducted only over civil airways and at airports equipped with radio ranges or equivalent facilities (unless otherwise specifically authorized by the Administrator).

it must be assumed that Flight 44-2 departed Pittsburgh with a fuel load of 262 gallons. These calculations are based on an hourly consumption of 150 gallons, which the company requires for flight planning purposes.

No explanation can be found for the discrepancy between this figure and the fuel load shown on the flight plan and weight and balance manifest out of Pittsburgh, which in themselves were at variance with each other. It is likewise difficult to understand why a VFR flight plan was filed direct to Buffalo, under known en route instrument weather conditions, while IFR flight was indicated on the weight and balance manifest. The only logical explanation appears to be an effort to save time. Flight 44-2 was already 5 hours 40 minutes late when it arrived at Pittsburgh and Miami-bound passengers, who has been waiting for its arrival, were enplaned northbound, instead of southbound as originally planned, to enable a non-stop flight from Buffalo to Miami. At this time there was sufficient fuel aboard only for a VFR flight to Buffalo—1 hour plus 45 minutes reserve—whereas the fuel requirements for an IFR flight would have necessitated the addition of fuel at Pittsburgh, thereby further delaying the flight, since refueling would have been required at Buffalo also for the contemplated non-stop flight to Miami.

Evaluation of all evidence leads to the conclusion that Captain Harris, through his failure to plan and dispatch his flight in conformity with procedures outlined in the Company operations manual, did not discharge the responsibility placed in him by his company and by the airline transport rating which he held.

A review of Continental Charters' operations since it was founded in June 1947, indicated that the Company allegedly violated Civil Air Regulations in four instances in April and May 1948, and in four instances in January 1950. The alleged violations in 1948, all of which involved overload in DC-3 equipment, were compromised by payment to the Civil Aeronautics Administration of \$150 on November 26, 1948. The alleged violations in 1950, three of which involved overload and one insufficient fuel to fly to an alternate plus

45 minutes cruising reserve, were compromised by payment of \$1,000 on March 27, 1951. Since January 28, 1950, several irregularities have been called to the attention of the company by the Civil Aeronautics Administration but no further violation charges have been preferred. It appears that the company has made a conscientious effort toward steady improvement of operating procedures.

FINDINGS

On the basis of all available evidence the Board finds that

1. The carrier, crew and aircraft were probably certificated.

2. Upon departure from Pittsburgh, the aircraft weight was 4,737 pounds less than the certificated gross weight of 45,000 pounds, and the disposable load was properly distributed with reference to the center of gravity.

3. There was no malfunctioning of the aircraft or any of its components prior to the accident.

4. The flight departed Pittsburgh on a VFR flight plan when IFR conditions prevailed over the proposed direct Pittsburgh-Buffalo route.

5. The flight from Pittsburgh to the accident scene was conducted below the minimum altitude prescribed for VFR night operation.

6. The accident occurred approximately 11 miles east of the direct course, Pittsburgh to Buffalo, and under conditions of almost zero ceiling and visibility.

PROBABLE CAUSE

The Board determines that the probable cause of this accident was the captain's poor judgement in attempting a flight by visual reference during instrument weather conditions.

BY THE CIVIL AERONAUTICS BOARD.

/s/ DONALD W. NYROP

/s/ OSWALD RYAN

/s/ JOSH LEE

/s/ JOSEPH P. ADAMS

/s/ CHAN GURNEY

Supplemental Data

INVESTIGATION AND HEARING

At approximately 2330, December 29, 1951, the Civil Aeronautics Board was advised that Continental Charters' Flight 44-2 was unreported, and at 0047, December 30, when its fuel supply would have been exhausted, it was classified as "missing aircraft." The Search and Rescue and other interested agencies were notified by the Pittsburgh ARTC. Four CAB investigators were dispatched immediately to Pittsburgh and an investigation was immediately initiated in accordance with the provisions of Section 702 (a) (2) of the Civil Aeronautics Act of 1938, as amended. In connection with the investigation of this accident a public hearing was held at Little Valley, New York, on January 17 and 18, 1952.

AIR CARRIER

Continental Charters, Inc., is a Florida corporation with its principal base of operations located at the International Airport, Miami, Florida. It holds Letter of Registration No. 621, issued August 1, 1947, by the Civil Aeronautics Board, and Operating Certificate No. 2-250 issued by the Civil Aeronautics Administration on September 4, 1947, which authorizes it to operate as a Large Irregular Air Carrier in the transportation of passengers and cargo.

FLIGHT PERSONNEL

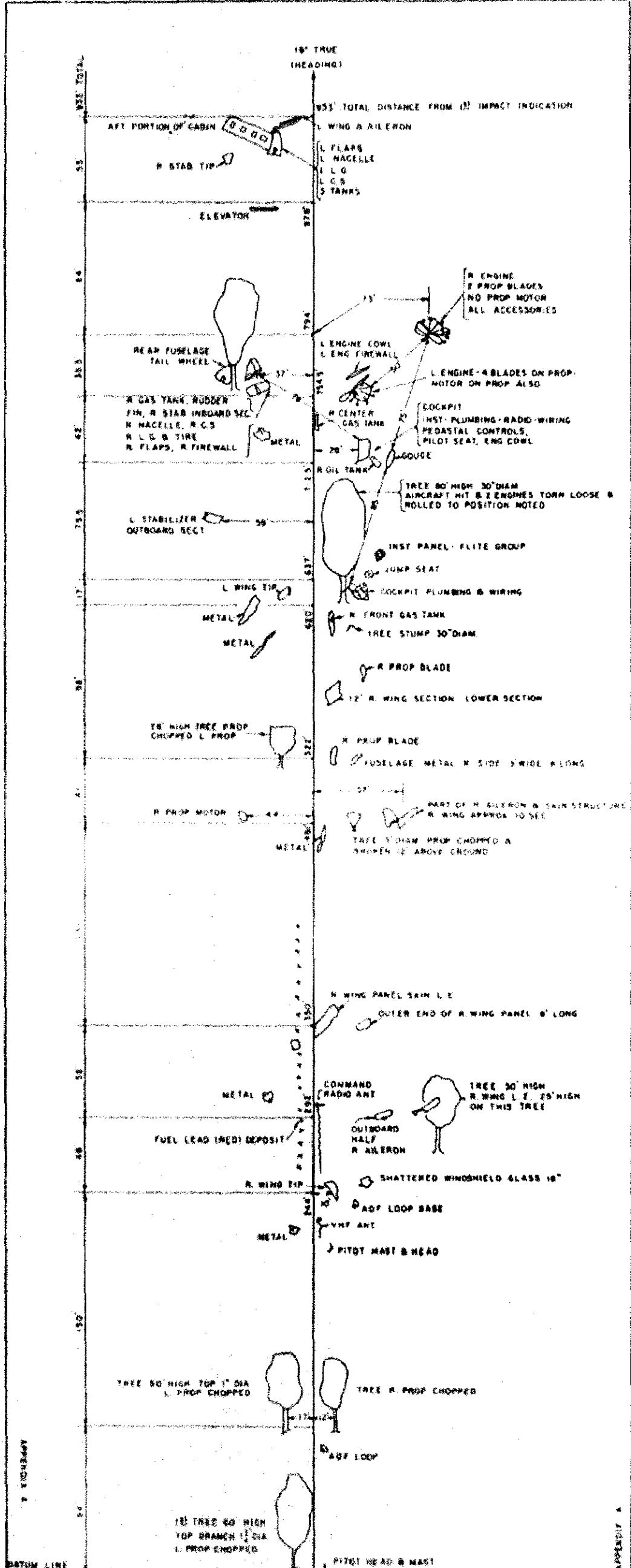
Captain Victor A. Harris, age 28, became a employee of Continental Charters, Inc., on November 29, 1948. He obtained his Airline Transport Pilot Rating, No. 121530, on a Curtiss C-46 at Miami, Florida, on March 9, 1951, his last first-class physical June 18, 1951, and his last six-months equipment and instrument check by the Civil Aeronautics Administration Safety Agent on September 19, 1951. His total flight time was 3,107 hours.

Copilot Hans E. Rutzebeck, age 33, was employed by Continental Charters, Inc., as co-pilot, July 25, 1951, at which time he held Commercial Certificate No. 301086. The company records indicate he had a total flying time of 6,361 hours 57 minutes. The CAA Airman Records show that he obtained his student permit September 7, 1946, his temporary private certificate October 10, 1946, and his commercial certificate July 30, 1948 at which time his application indicated 600 hours total flight time. On September 28, 1949, he received his instrument and instructor's rating, at which time his application indicated 2,500 hours total flight time, and on July 6, 1951, he received an additional rating of multi-engine sea, at which time his application indicated 6,385 hours total flight time. His second-class physical examination was accomplished May 25, 1951, and his last six-months instrument check on August 3, 1951.

Stewardesses Pearl Moon and Dolores H. Harvey had been employed by the company since August 11, 1950, and December 13, 1951, respectively. Miss Moon was designated Senior Stewardess on July 25, 1951.

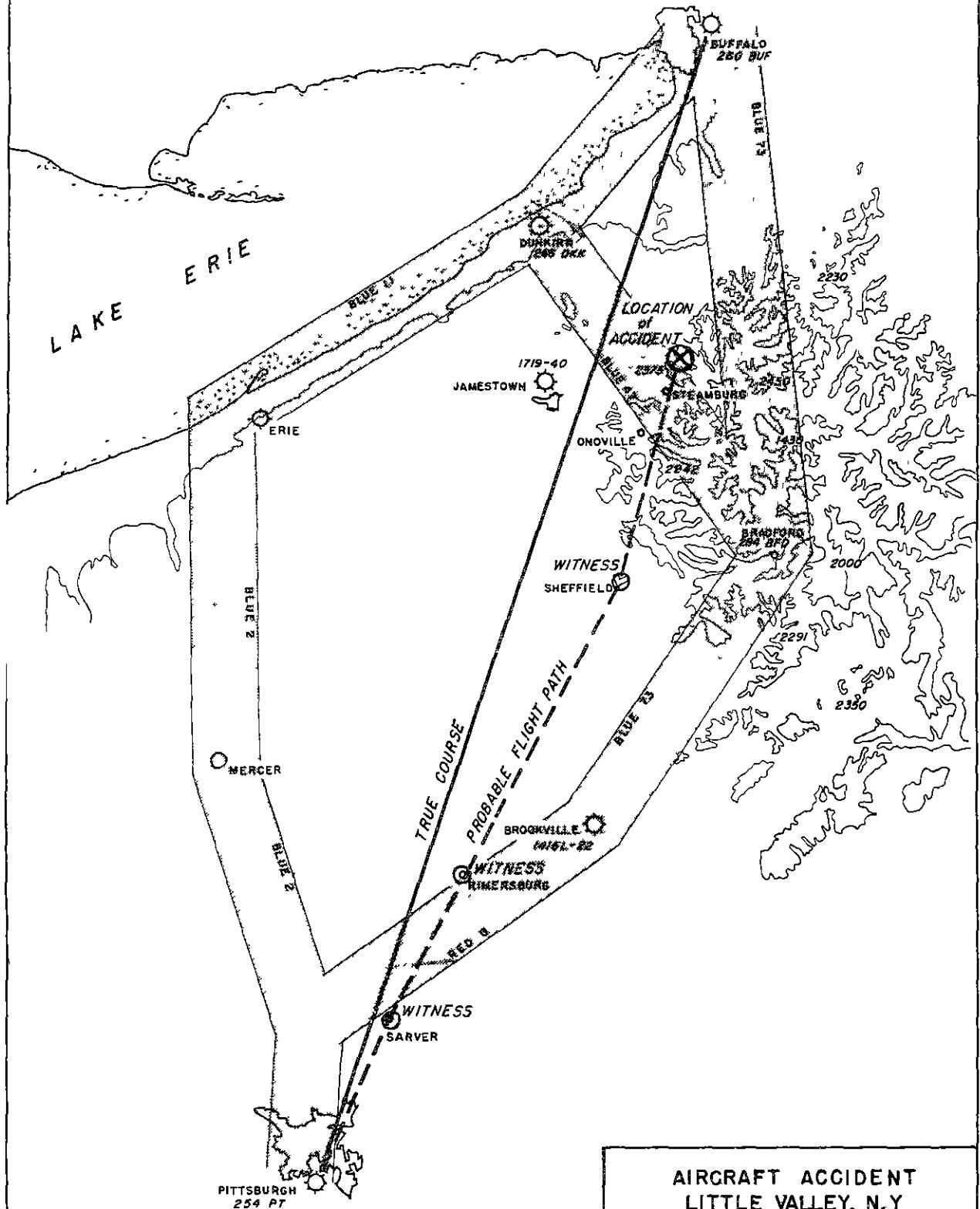
THE AIRCRAFT

The aircraft, a Curtiss C-46A Serial No. 30466, N 3944C, was equipped with two Pratt & Whitney R-2800-51 engines and Curtiss electrically operated full-feathering propellers. The aircraft, after having been previously registered in Colombia, South America, was returned to the United States and on December 5, 1951, a certificate of registration was issued to the Carmas Supply Corporation of Washington, D. C. Continental Charters, Inc., leased the aircraft after it had been modified and equipped for U. S. air carrier operation as required by the Civil Air Regulations.



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